



HOMEOSTASIS FORMULA

Saliva, Urine and Stool Tests

INTRODUCTION

In reviewing your Laboratory Report Colored Graph, if your test value falls in the green color area on a saliva, urine or stool test, this means your test value is “medically” normal. However, this does not necessarily mean your value is also in homeostasis, i.e., a healthy value.

If you can imagine a line being drawn in the middle of any green colored areas and it is obvious that your test value is way below or above that imaginary line, it is visually obvious that your test value is not in homeostasis because homeostasis values are nearer the midpoint, i.e., the imaginary line in the middle of the green area. In other words, within 10% above and below the imaginary midline.

For graphs on Laboratory Reports where homeostasis is not visually obvious as explained above, you will need the formula below to calculate numerical reference range for homeostasis.

CALCULATING HOMEOSTASIS REFERENCE RANGES

With the medical reference range on any saliva, urine or stool test, you can use this formula to calculate the homeostasis reference range.

The example below is using the medical reference range on a saliva Melatonin test for 2:30 a.m to 3:30 a.m. Let's say that the medical reference range is 2.53 to 30.67.

- 1) Round to whole numbers. If Medical Reference Range is 2.53 to 30.67 we are rounding to 3 to 31.
- 2) $31 - 3 = 28$.
 - a) Subtract the low reference number (3) from the high reference number (31) to get the total number of points between them (28).
- 3) $28 \text{ divided by } 2 = 14$
 - a) Divide the total number between the high and low reference number (28) by 2 to find out mid-point sum (14).
- 4) $31 - 14 = 17$, which is the midpoint between 31 and 3.
 - a) Subtract the mid-point sum (14) from the high reference Number (31) to get the mid-point number between the medical reference range (17).
- 5) $10\% \text{ of } 17 = 1.7$ which is rounded to 2.0.
 - a) Homeostasis is 10% above and below the mid-point number (1.7). Round to whole number when necessary, i.e., round 1.7 to 2.
- 6) $17 - 2 = 15$ (lower homeostasis reference)

- a) Subtract the percentage of midpoint number (2) from the mid-point number itself (17) to get the lower homeostasis reference number (15).
- 7) $17+2 = 19$ (higher homeostasis reference)
 - a) Add the percentage of midpoint number (2) from the mid-point number itself (17) to get the higher homeostasis reference number (19).
- 8) Therefore, the homeostasis reference range is 15 to 19 for a medical reference range of 2.53 to 30.67 (or 3 to 31, rounded).

FINAL ASSESSMENT

If your test value is 7.36 for Melatonin between 2:30 a.m. and 3:30 a.m. This would mean your test value is “medically” normal according to the medical reference range of 2.53 to 30.67 on the Laboratory Report itself. Being Medically Normal means you have no disease or life-threatening medical condition due to an abnormal amount of Melatonin.

However, 7.36 for Melatonin between 2:30 a.m. and 3:30 a.m. is “nutritionally” abnormal according to the homeostatic reference range of 15-19. This means you do not have enough Melatonin for the “for the metabolic and biochemical processes or organ/glands/body systems that require sufficient Melatonin levels (homeostasis) to function healthily.

So our goal is to raise your Melatonin level of 7.36, between 2:30 a.m. and 3:30 a.m, to a homeostasis level (value) between 15 and 19 so you will truly have a “healthy” value of Melatonin.

CONCLUSION

Again, you will use the above formula to calculate the homeostasis reference range on any saliva, urine or stool test using the medical reference range on the Laboratory Report when it is not visually obvious that your number is out of homeostasis range, i.e., obviously over 10% below or above the imaginary mid-line in the green colored area.

If you have any questions or challenges, calculating your homeostasis reference range, schedule a consultation with Dr. Smith by calling 940-761-4045.